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| **Software Requirements Specification**  **E-Log Modules (Engineering)**  [Project Id: BCIL\_MUM\_202223\_P001-V1R1]  **For**  **Cipla Limited**  **Template Reference: BCIL-FRM-020-Software Requirements Specification**  **Date of Release of Template: 05-August-2016**  **Document Reference: Cipla\_E-Log\_SRS\_Aug'2022\_V1.0**   |  |  |  | | --- | --- | --- | | Prepared / Modified By | Role | Date of Preparation / Modification | | Prepared By | **Role** | **Date of Preparation** | | Leena Patil | Technical Writer | 22.08.2022 | | Reviewed By | **Role** | **Date of Review** | | Chandrakant Shindkar | Deputy Manager - Software |  | | Approved By | **Role** | **Date of Approval** | | Ritu Kapoor | Head of Engineering |  | | Circulation List | | **Release / Version** | |  | | V1.R1 | |

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**REVISION HISTORY**

This document is subject to the version management. Each change has to be entered into following table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Section Changed** | **Release/Amendment summary** | **Release / Version** | **Release Date** | **Approved By** | **Signature** |
| All | Initial release | 1.0 |  |  |  |



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1. **INTRODUCTION**
   1. **Purpose**

The purpose of this document is to explain the system architecture of E-Track modules throughout the life cycle of the project. This document communicates the justification of software process & application module specification in detailed manner to understand the brief of it. BCI is pleased to submit this document to understand the application solution on customer requirement.

* 1. **Document Conventions**

|  |  |
| --- | --- |
| **Acronym, Abbreviation or Convention** | **Description** |
| **SRS** | Software Requirements Specification |
| **BCI** | Bar Code India |
| **HHT** | Handheld Terminal or Mobile Device. |

* 1. **Intended audience & Reading suggestions**

This document targets primarily the developers, projects managers and document writers. Secondary audience would if possibly include testers who have previous knowledge of software design or databases, but they are mostly recommended to just read the introduction and features specified in this document. The rest of this document contains information on the overall description of the application product, the system features and any other requirements needed that do not fall into these categories.

**The screen prototypes have been used while designing samples screens in this document may vary in actual development.**

* 1. **Product Scope**

The E-Log modules implement the persistent data requirement for logging & monitoring activities capturing equipment maintenance transactions. E-log modules will be deployed as enhancements in the existing barcode system. The solution is designed to satisfy the business rules while maintaining data integrity, consistency & performance. All the modules of E-Log are described in following section; information is presented with detailed descriptions to understand & support operational needs.

The entire solution consists of followings:

|  |  |  |  |
| --- | --- | --- | --- |
| **SR** | **Application** | **Technology** | **Usage** |
| 1 | Web Based Native App for HHT & TAB | Angular, .NET, MS SQL | For maintaining masters & configuration, For creating e-logs along with its review, approval, Report generation & audit log process. |

1. **OVERALL DESCRIPTION**
   1. **Operating Environment**
      1. **Software Prerequisites**

Following are the software pre-requisites will be installed on server system.

* Dot net Framework 4.7.2
* IIS (Internet Information Services)
  + 1. **Hardware Requirement**

Following are the hardware’s will be used in this system

* PC with Local Network Connectivity with Browser [Chrome/IE11].
* TAB
  + 1. **Database Requirement**

Following database will be installed on the server.

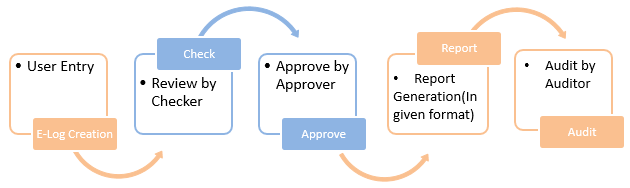
* MS SQL Server [*Existing central server to be used.]*
  1. **Design and Implementation Constrains**

The application is developed using Microsoft.net development technology, no other external program has been used & it is having ability to run on the basic computer environment.

1. **SYSTEM** **ARCHITECTURE**

Existing E-Track application architecture of load balancing will be followed as this e-log will be part of E-Track application.

**PROCESS FLOW CHART**



*\*The processes mentioned in the blue color are not necessary for all the e-logs.*

1. **APPLICATION ACCESS**

|  |  |
| --- | --- |
| Module | Application access |
| Description | This is defined for login into the application and accesses the e-log modules. |

***Exiting “E-Track” application login will be used for login into the application.***

***User access permissions will be created in the existing user rights master.***

***User can login and access the e-log modules from the main menu of the application.***

1. **MASTERS**
2. **User Master:**

|  |  |
| --- | --- |
| Module Description | This module will let user to create application users who will access the application. To keep the system secured and track activities done by different users, user need to be registered to the system. Application provides following functionalities to manage users. The master will store the users’ details in system. |
| Data Fields | 1. First Name 2. Last Name 3. Phone Number 4. Select Designation 5. Employee Code 6. Reporting Manager 7. Email 8. Password 9. Confirm Password 10. Is Active |
| Process Steps | 1. Enter required details such as First Name, Last Name, and Phone Number. 2. Select Designation and Reporting Manager from dropdown. 3. Enter Employee Code, Email, Password, Confirm Password. 4. Select Status as Is Active if it is active. 5. Click on Add button to save details in database. 6. Newly added user will saved and appear in data grid. |
| Functions | 1. Add, edit/update, delete as per requirement 2. Employee Code and Password is used to access the application. |

1. **Department Master:**

|  |  |
| --- | --- |
| Module Description | This master will contain Department details which will define department in application with the help of this master. |
| Data Fields | 1. Department Code 2. Department Name 3. Department Description 4. Is Active |
| Process Steps | 1. System will generate a unique code for Department Code. 2. Enter Department Name and Description. 3. Select Status as Is Active if it is active. 4. Save the details in database. |
| Functions | 1. Add, edit/update and delete Department details as per requirement. |

1. **Area/Room Master:**

|  |  |
| --- | --- |
| Module Description | This master will contain Area details which will define Area in Departments. With the help of this master will maintain area details. |
| Data Fields | 1. Area Code 2. Area Name 3. Area Description 4. Select Department 5. Zone 6. Is Active |
| Process Steps | 1. System will generate a unique code for Area code. 2. Enter Area Name and Area Description. 3. Select Department from dropdown. 4. Enter Zone. 5. Select Status as Is Active if it is active. 6. Save the details in database. |
| Functions | 1. Add, edit/update and delete Area details as per requirement. |

1. **Equipment Master:**

|  |  |
| --- | --- |
| Module Description | Apart from raw and production material, system also has other material and equipment that are required to perform various activities. Computers, scanners, machineries etc. are equipment that are used in system activities as catalyst or helper but they themselves are not consumed for production. |
| Data Fields | 1. Equipment Code 2. Equipment Name 3. Equipment Alias 4. Select Department 5. Select Area 6. Equipment Description 7. Select Equipment type 8. Select Communication Type 9. Vendor Name 10. Vendor Document Number 11. Date of Procurement 12. Maintenance Schedule Days 13. Date of Installation 14. Support Expire On 15. Clean Hold Time 16. Minimum Limit 17. Maximum Limit 18. Is Maintenance Required 19. Is Portable 20. Is Active |
| Process Steps | 1. Enter Equipment Code, Equipment Name, Equipment Alias, and Equipment Description. 2. Select Department, Select Area, Equipment Type, and Communication Type from the dropdown. 3. Enter Vendor Name, Vendor Document Number. 4. Select Date of Procurement, Date of Installation, Support Expire On. 5. Enter Maintenance Schedule Days, Clean Hold Time. 6. Enter Minimum Limit and Maximum Limit. 7. Select the checkbox of Is Maintenance Required, Is Portable, and Is Active status as yes if needed. 8. Save the details in database. |
| Functions | 1. Add, edit/update, and delete Equipment details as per requirement. |

1. **E-LOG MODULES**
   1. **Lux Level Measurement of Illumination**

***Business Process Identification***

|  |  |
| --- | --- |
| Module | Record for lux level measurement of illumination (light source). |
| Description | Below module will be used for recording the logs of lux level measurements of illumination in the different areas. |

***Output Format / Report***

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
|  | Below is the e-log format will be generated / printed from this module.  https://lh6.googleusercontent.com/wreIWgGobwBpl2eLGddfaYwp-KlRozexnJhR4u7PDr1n4dLb83TR3paBMcnk5yIOvi-adGojQvLkd8z6IaQh0Dwi4uT6VoTZHcZLgK5CPCdnxnNzl9ZAq3gnnBsmCsnVpPkdTYKawSa8E0t-A_QalGY |

***Master Modules***

|  |  |
| --- | --- |
| Module | Below are the master modules associated to this module. |
| Description | * Department Master * Area/Room Master * User Master * Equipment Master |

***Proposed Process:***

1. **Create:**

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **1.** | **Proposed Process Explanation** |
|  | Below is the snapshot of the module which will be used for the logs.    To operate this module user can follow the below steps.   1. User will select the Department code from the dropdown, this list of departments will be shown from the department master module. 2. Select the Area/Equipment/Instrument from the dropdown and basis this selection   *\*Application will load the selected areas/equipment/instruments in the dropdown for selection.*   1. Limit will be displayed on the screen. 2. Room no will displayed if user selects the area.   *\*Application will show the last 3 digits of the area code however user can edit it manually.*   1. Enter Equipment code and click on “Go” button   *\*Application will validate if the entered equipment code is belonging to the master data or not.*   1. Enter Lux Meter Code. 2. Enter five reading.   *\*Application will validate the entered reading with limit displayed.*   1. The average reading basis the entered 5 reading will get displayed. 2. System will check if the average is within limit so it will be **Complies**. Otherwise it is **Non-Complies**. 3. Due on date will be calculated and displayed on the screen on basis the current for next 2 month. 4. User will enter the remark if required. 5. Click on **Save** button. 6. Click on **Clear** button to clear the entered values on the screen. |

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| 2. | **Validations** |
|  | 1. After saving record it will have checked by (Review) and approved by process. 2. If outputs of reading 1-5 are beyond the defined limit, application shows the warning popup but it will allow user to record the output. 3. Required alert (may be Email) to notify that the entry is pending. Alert should be raised if reading is not happened within 60 days. 4. An alert will be send by email before 10 days of due date. 5. Limit will be configured against the equipment in equipment master. 6. After click on Save button, this log will be non-editable. In case of any correction required, user can reject the log entry and can create new one. 7. Equipment code entry field will be with auto complete feature; application will filter and show the equipment code basis user inputs. 8. An email alert should be send in case of log is not created on its frequency. |

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **3.** | **Risk & Assumptions** |
|  | 1. All master data like department, area, equipment etc. should be maintained in the respective master module. |

1. **Review:**

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **1.** | **Proposed Process Explanation** |
|  | Below is the snapshot of the module which will be used for the review of logs.    Application will show the list of logs pending for review in this module in the first view.  User will click on **View** [ ] button showed in first column to see the log entry details for the review.  Following screen will get displayed:    To operate this module user can follow the below steps:   1. Authorized user will check the details entered in the log. 2. Click on **Review** button if entered log is ok. 3. User will click on **Reject** button in case of there is any change in the log.   *\*Application will ask user to enter the remark if it is going to be rejected.*   1. Corresponding details get saved in the database. |

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **2.** | **Validations** |
|  | 1. Only authorized users can review the logs. 2. The log should be non-editable for reviewer. 3. While rejecting the record during checked by or approved by stage user will have rejection comment entry option. 4. User can click on **Search** button to filter the records in list of records. |

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **3.** | **Risk & Assumptions** |
|  | 1. Log should be created with proper data. |

1. **Approve:**

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **1.** | **Proposed Process Explanation** |
|  | Below is the snapshot of the module which will be used for the verification of logs.    Application will show the list of logs pending for verification in this module in the first view.  User will click on **View** button showed in first column to see the log entry details for the verification.  Following screen will get displayed:    To operate this module user can follow the below steps.   1. Authorized user will check the details entered in the log. 2. Click on **Verify** button if entered log is ok. 3. User will click on **Reject** button in case of there is any change in the log.   *\*Application will ask user to enter the remark if it is going to be rejected.*   1. Corresponding details get saved in the database. |

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **2.** | **Validations** |
|  | 1. Only authorized users can verify the logs. 2. While rejecting the record during checked by or approved by stage user will have rejection comment entry option. 3. The log should be non-editable for verifier. 4. User can click on **Search** button to filter the records in list of records. |

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **3.** | **Risk & Assumptions** |
|  | 1. Log review should be completed. |

1. **Audit Log:**

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **1.** | **Proposed Process Explanation** |
|  | Below is the snapshot of the module which will be used for the audit of logs:    These logs will monitor the activities of user who accessed the application, made changes to File/ Document and the time stamp of these activities. |

1. **REPORT**
   1. **Report Generation**

***Business Process Identification***

|  |  |
| --- | --- |
| Module | Report Generation |
| Description | Below module will be used for generating the report of the log. |

***Proposed Process***

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| **1.** | **Proposed Process Explanation** |
|  | Below is the snap shot of the module which will be used for generating the report of the logs.    Below is the list of activities needed to be followed for generating the report.   1. User will select the report name from dropdown. All the list of log name will be shown in the selection field. 2. After selecting the log name its report generating filters will populate for selection on the basis of selected report, in the above screen filters are shown for log i.e., “Visual Inspection”. 3. User will select the filters. 4. User need to click on **Generate** button. 5. Application will generate the log report in the associated format. |

|  |  |
| --- | --- |
| **Sr. No** | **Topics** |
| 2. | **Validations** |
|  | 1. Log format is mentioned in each log module section. 2. Report generation filters should be populated based on the report name selection. Shown in the image is just an example. 3. User can download the populated report in the PDF/Excel format. |

**ACCEPTANCE**

***Before Sign Off***

Any changes in SRS need to be informed by **Cipla Limited** then it will be incorporated / confirmed only after doing detailed feasibility study by BCI.

***After Sign Off***

Any changes in proposed solution after approval of this document by **Cipla Limited** are subject to confirmation from BCI, taking feasibility constraints into account. These changes will be incorporated (if any) into the solution only after delivering proposed solution & may be charged as extra.

BCI reserves the rights to change Details of Application before & after Sign Off i.e., Fields on Screen, Reports, Database, etc. without changing the functionality or outputs assured for the project.

Agreed and Accepted by **Cipla Limited.**

**Steering Committee**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr** | **Name** | **Dept.** | **Signature** |
| 1 |  |  |  |
| 2 |  |  |  |

**Project Manager**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr** | **Name** | **Dept.** | **Signature** |
| 1 |  |  |  |

**Team Members**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr** | **Name** | **Dept.** | **Signature** |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |